

be removed by circular frictions. Rheumatism of the occipital and auriculo-temporal regions is not infrequently responsible for supra-orbital neuralgia.

Neuralgia in the back part of the head is very often caused by infiltrations in the trapezius and sterno-cleido-mastoid muscles because of the pressure exerted by these infiltrations upon the nerves enervating the back part of the scalp. These infiltrations removed by kneading and frictions, the pain very often decreases. It is interesting to see how patients are frequently relieved during treatment.

This treatment is always indicated because it gives, on an average, better results than any other. Owing, however, to our lack of knowledge as to the cause, we can never promise a positive result.

All cases of cranial neuralgia do not respond to massage, but many make partial or entire recoveries. Some show marked improvement in five or six treatments, while others require months.

Relapses sometimes occur after apparent recovery, and treatments should then be resumed.

A lubricant is unnecessary.

Treatments should be given every day and continued for from five to fifteen minutes at a sitting; later two or three times a week till recovery is assured.

DRUGS: THEIR USE AND ABUSE

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(Continued)

An *extract* is a solid (or semi-solid) preparation made by evaporating an infusion, decoction, or tincture to dryness. Extracts have the advantage of presenting the active, soluble constituents of a drug in a concentrated form not liable to change; they are typically adapted for administration in the shape of pills.

Spirits contain a volatile substance dissolved in *alcohol*, while *waters* are solutions of volatile substances in water. The latter are used mainly as vehicles for the administration of more powerful substances.

Emulsions contain oil in suspension in water, usually made possible by the aid of gum arabic. They are very prone to spoil and should be kept in well-filled bottles, securely corked, in a cool place, away from the light. If these precautions are observed carefully, cod-liver oil

emulsions may be kept for some time and deprived of some of the nauseating and disgusting effects of the oil.

Mixtures are aqueous preparations containing some solid matter in suspension. *Solutions* contain a non-volatile substance dissolved in water.

Syrups are solutions of medicinal principles in water containing sugar. The unpleasant taste of some drugs may be disguised in this manner, which renders syrups particularly effective in administering medicines to children. In the case of adults the sweet taste often becomes nauseating, and in some instances serious digestive disturbances result if the use of syrups is too long continued.

Liniments, cerates, ointments, and plasters are intended for external use. Liniments have an oily or alcoholic basis; they are applied to the skin for their counter-irritant effect. Ointments contain a fatty basis, melt at the temperature of the body, and are used to medicate locally, to produce the effect of a drug on the entire system, or to act as mere protective dressings. They should be free from any taint of rancidity and contain no irritating particles of drug. Cerates are made somewhat firmer by the addition of wax. Plasters merely soften at the temperature of the body, but do not melt; they are usually applied for a local effect, though absorption of certain drugs sometimes takes place (for instance, belladonna).

Suppositories contain as a basis cacao-butter, and are intended for administration per rectum; occasionally they are employed to medicate the urethra and vagina. The rectal suppository is cone-shaped and weighs about one gramme. Cacao-butter melts at the temperature of the body, while it is perfectly solid a few degrees below this point; therefore suppositories should be kept on the ice, and it is well to chill the fingers by dipping them in ice-water before a suppository is administered.

The following official classes of preparations are of less importance, the bases appearing in parentheses:

Honeys (honey) are similar in action and composition to syrups. *Mucilages* (mucilage). *Glycerites* contain glycerin and share the hygroscopic properties of this liquid; they mix readily with water and alcohol. *Elixirs* are aromatic sweetened vehicles containing alcohol, syrup, and water. *Wines* (white wine) offer no special advantages over tinctures; like the latter, they contain alcohol. *Collodions* are solutions of gun-cotton in a mixture of ether and alcohol; if applied to the skin, they leave a thin, contracting film which adheres tightly to a dry surface and are therefore suitable for dressing small wounds. *Oleates* contain medicinal substances in solution in oleic acid. *Oleo-resins* are

mixtures of oil and resin and are usually very active substances medicinally. *Vinegars* are made with a menstruum of vinegar. A *trituration* is a powder representing ten per cent. of a drug mixed with powdered sugar of milk. A *troche* is a medicated lozenge, a *paper* a medicated paper.

Nearly four hundred and fifty preparations are official in the pharmacopœia. Obviously, while it is necessary for the physician to know accurately the dose of each preparation, it is of great assistance to the nurse to know approximately the average dose of each class. By memorizing the dose of each poisonous preparation and noting a few exceptions, the following figures will be found most useful (applying to *official* preparations) :

Fluid extracts may be given in doses of ten to twenty minims, with the exceptions of the poisons, the dose of which is one minim. In all cases the dose of the fluid extract in minims should be the same as that of the drug in grains, because fluid extracts are one hundred per cent. preparations.

Tinctures can be administered in doses of one fluidrachm (a teaspoonful). This applies to the non-poisonous tinctures. Those which are poisonous may be given in doses of ten minims, with the exception of the tincture of aconite and the tincture of veratrum viride, the dose of which is from one to three minims.

Spirits may be administered in doses of one-half a fluidrachm (one-half teaspoonful). The exceptions are spirits of nitroglycerin (glonoin), the dose of which is from one to three minims, and the spirit of phosphorus (rarely used), about ten minims.

Infusions and *decoctions* range in dose from one to two tablespoonfuls. The infusion of digitalis is an exception, as it is given in doses of from one to four fluidrachms (one to four teaspoonfuls).

Syrups are given in doses of one fluidrachm (one teaspoonful); the syrup of iodide of iron in doses ranging from ten minims to half a fluidrachm.

Extracts (solid) are concentrated preparations; their dose is about one grain, that of the poisonous extracts about one-quarter of a grain.

Diluted acids may be given in doses ranging from ten to thirty minims (well diluted with water and to be taken through a glass tube). Diluted hydrocyanic (prussic) acid is an exception, as its dose is from one to three minims.

